Rapid Optical Characterization Suite for in situ Target Analysis of Rock Surfaces (ROCSTAR)

Completed Technology Project (2011 - 2012)

Project Introduction

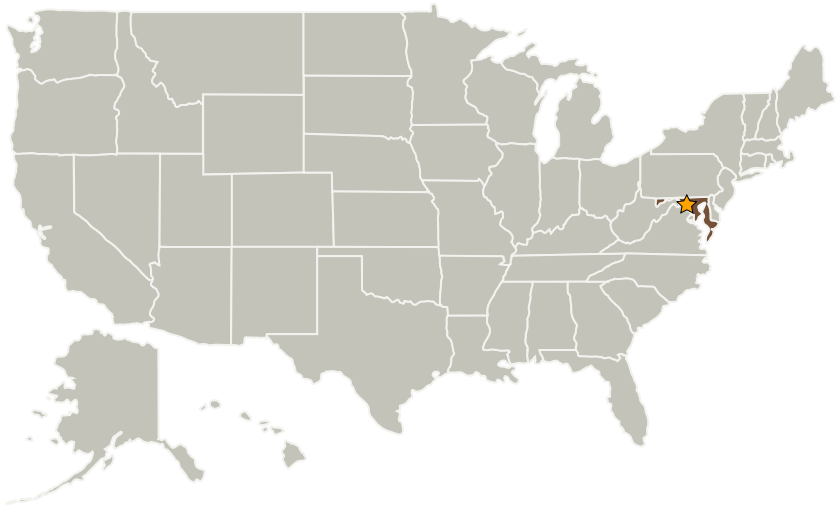
In this project, we develop an in situ instrument suite that can accomplish rapid mineral and molecular identification without sample preparation for in situ planetary exploration.

ROCSTAR is an in situ instrument suite that can accomplish rapid mineral and molecular identification without sample preparation for in situ planetary exploration; inform the investigation with regard to trace element geochemical deviation from end member stioichiometry; operation as a spectroscopic imager for chemical mapping. It includes dual wavelength Raman spectroscopy, 380 - 2500 nm reflectance spectroscopy, visual imagery and thermal measurements.

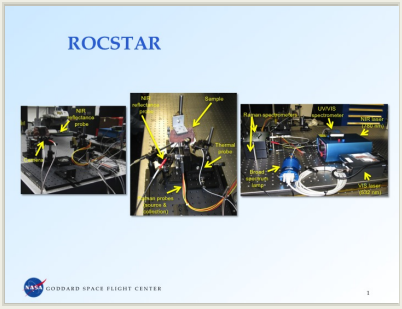
Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland



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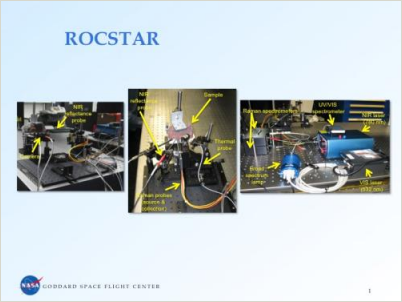
Primary U.S. Work Locations
Maryland

Images



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Rapid Optical Characterization Suite for in situ Target Analysis of Rock Surfaces (ROCSTAR)
(https://techport.nasa.gov/image/1135)

Project Website:

http://sciences.gsfc.nasa.gov/sed/

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

Brook Lakew

Principal Investigator:

Pamela G Conrad

Co-Investigators:

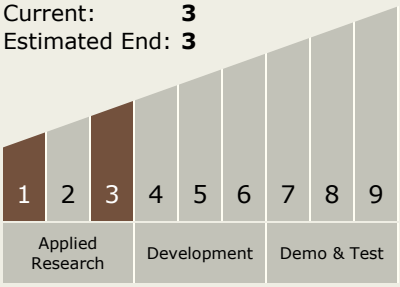
Barbara J Zukowski
Peter A Morey

Rapid Optical Characterization Suite for in situ Target Analysis of Rock Surfaces (ROCSTAR)

Completed Technology Project (2011 - 2012)

Technology Maturity (TRL)

Start: **1**
Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.3 In-Situ Instruments and Sensors
    - TX08.3.2 Atomic and Molecular Species Assessment